



## **Crocus - Evolution and domestication**

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*Published in:*

Xth Symposium of the International Organisation of Plant Biosystematists

*Publication date:*

2008

*Document version*

Publisher's PDF, also known as Version of record

*Citation for published version (APA):*

Ørgaard, M., & Jacobsen, N. (2008). *Crocus - Evolution and domestication*. In *Xth Symposium of the International Organisation of Plant Biosystematists* (pp. 17)

# **Xth Symposium of the International Organization of Plant Biosystematists**

2 – 4 July 2008  
Vysoké Tatry, Slovakia

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## **Crocus - Evolution and domestication**

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*Crocus* belongs to the family *Iridaceae* and includes more than 80 species. The genus is mainly found in the northern Mediterranean region, especially towards the Middle East. *Crocus* exhibits a large inter- and intraspecific variation regarding morphology, cytogenetics and molecular composition. The chromosome numbers vary from  $2n = 6$  to  $2n = 64$  and this variation is also to be found intraspecifically, e.g. at the subspecies and even population level. *Crocus vernus* s.l. has a wide distribution from Spain to easternmost Europe with reported chromosome numbers varying from  $2n = 8$  to more than 20. *Crocus biflorus* s.l. represents the one species with the most variation encountered. Chromosome numbers range from  $2n = 8$  to 28 and vary at the subspecies and population level. These cyto-/ecotypes are often confined geographically to mountain peaks and ranges. Natural hybridization between populations and species occurs and give rise to new genotypes and eventually new species. Variation in chromosome numbers can be explained by the "Triploid Pathway". Expression of diversity can be speeded up when plants from different geographical areas are taken into cultivation and allowed to hybridize through open pollination. This has resulted in more than 200 *Crocus* cultivars altogether.

The diversity is registered in morphological appearance, DNA polymorphism (e.g. results from RFLP, AFLP, in situ hybridization, DNA sequencing), chromosome number and crossability.